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09/976,274	10/15/2001	Hyun-Soo Park	P56597	9123

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EXAMINER

WANG, JIN CHENG

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/976,274

Applicant(s)

PARK, HYUN-SOO

Examiner

Jin-Cheng Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Withdrawal of Finality of Rejection*

Applicant's request for reconsideration of the finality of the rejection of the last Office action dated 06/01/2004 is persuasive and, therefore, the finality of that action is withdrawn.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheney et al. U.S. Pat. No. 6,519,283 (hereinafter Cheney '283) and Cheney et al. U.S. Patent No. 6,469,743 (hereinafter Cheney '743).

I. Claim 1:

(a) Cheney '283 teaches an apparatus for processing a signal (e.g., column 4, lines 28-57), comprising:

A signal-dispensing unit for dispensing an output signal output from a personal computer in the form of an analog or digital signal (e.g., figures 2-5; column 3, lines 22-40; column 5; column 6, lines 7-25; column 7, lines 19-37);

A signal processing unit for performing picture-in-picture signal processing (e.g., figures 2-5; column 5; column 6, lines 25-67) enabling one of a digital personal computer signal

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generated by said signal dispensing unit and a decoded first signal input from an outside source to be displayed on a main screen and the other to be displayed on at least one sub-screen (e.g., column 5-6; column 7, lines 19-37), and for processing said first signal to be displayed along on said main screen, said first signal being any one of a television signal and a video signal (e.g., figures 2-5; column 6, lines 25-67);

An output unit for outputting an analog personal computer signal in response to a control signal for displaying only said personal computer signal, and outputting an output signal of said signal processing unit in response to a control signal for displaying said personal computer signal and said first signal in picture-in-picture format (e.g., figures 2-5; column 7, lines 1-37); and

A monitor for amplifying (i.e., scaling) said signal output from the outputting unit to be displayed (e.g., figure 3-5; column 6, lines 25-67; column 9, lines 15-67; column 10, lines 1-67; column 11, lines 1-5).

(b) It is unclear whether Cheney '283 teaches an outputting unit outputting said analog personal computer signal generated from said signal dispensing unit, where said signal dispensing unit dispenses an output signal output from a personal computer in the form of an analog signal.

(c) However, Cheney '743 teaches an outputting unit outputting said analog personal computer signal generated from said signal dispensing unit, where said signal dispensing unit dispenses an output signal output from a personal computer in the form of an analog signal (See Cheney '743 column 11-12).

(d) It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the video decode system chip of Cheney '743 into the

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Cheney '283 because Cheney '283 suggests a video decode system chip incorporating an EGV port into an integrated digital video decode system such as a set-top box to process uncompressed analog video stream, to synchronize the output video/audio presentation to the stream and to mix/blend graphics into the output video stream, which may either comprise the uncompressed analog video stream or a merged picture-in-picture video stream including both the decompressed digital video and the uncompressed video wherein the blended stream is then output to the internal digital video encoder macro for encoding to television format and thus the analog channel is presented with the same graphical features, function and programming model capabilities as existing digital channels utilizing the integrated digital decode system (Cheney '283 column 8, lines 7-32).

(e) Such modification would have been would have provided a means to use a clock tied to the input stream results in better output picture quality since dropping/repeating of frames to maintain synchronization is minimized (Cheney '743 column 10-11) and the configuration provides a means to deliver analog sourced input channel such as the analog computer signal to the internal DENC and provides a mixed mode video set-top box application to support viewing conventional analog channels without the added cost and complexity (Cheney '743 column 11).

Claim 2:

The claim 2 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a signal conversion unit for converting the picture-in-picture signal output from the signal-processing unit into an analog signal before a signal is output from the outputting unit. However, Cheney '283 and Cheney '743 further disclose the claimed limitation of a signal

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conversion unit for converting the picture-in-picture signal output from the signal processing unit into an analog signal before a signal is output from the outputting unit (e.g., Cheney '283 figure 2 and column 6, lines 1-50 and Cheney '743 column 10-12 and Figs. 9-11).

Claim 3:

The claim 3 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal; and a signal processing unit for performing a picture-in-picture signal process on the first signal whose scan rate is converted and the digital personal computer signal, so that one of the first signal and the digital personal computer signal is displayed on the main screen and the other of the first signal and the digital personal computer signal is displayed on the plurality of sub-screens, or for processing the first signal to be displayed along on the main screen.

However, Cheney '283 further discloses the claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal (e.g., Cheney '283 figures 2-5; column 5-6; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-67); and a signal processing unit for performing a picture-in-picture signal process on the first signal (e.g., Cheney '283 figure 3-5; column 5; column 6, lines 25-67) whose scan rate is converted and the digital personal computer signal, so that one of the first signal and the digital personal computer signal is displayed on the main screen and the other of the first signal and the digital personal computer signal is displayed on the plurality of sub-screens (e.g., Cheney '283 figures 3-5; column 7, lines

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19-67; column 8, lines 1-67; column 9, lines 1-8), or for processing the first signal to be displayed along on the main screen (e.g., Cheney '283 figure 5; column 7, lines 19-37).

Claim 4:

The claim 4 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal.

However, Cheney '283 further discloses the claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal (e.g., Cheney '283 figure 5; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-8).

Claim 5:

The claim 5 encompasses the same scope of invention as that of claim 2 except additional claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal.

However, Cheney '283 further discloses the claimed limitation of a decoding unit converting the first signal into a digital signal and decoding the first signal; a scan rate conversion unit for converting a scan rate of the decoded first signal (e.g., Cheney '283 figure 5; column 7, lines 19-67; column 8, lines 1-67; column 9, lines 1-8).

2. Claims 6-9:

Each of the claims 6-9 is a rephrasing of claim 1, 2, 4 and 5 in a method form. The claims 6-9 are rejected for the same reasons set forth in claims 1, 2, 4 and 5, respectively.

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3. Claims 11-13:

Each of the claims 11-13 encompasses the same scope of invention as that of claims 1, 2, 4 and 5, respectively. The claims 11-13 are rejected for the same reasons set forth in claims 1, 2, 4 and 5.

Claim 14:

The claim 14 encompasses the same scope of invention as that of claim 10 except additional claimed limitation of the video signal being selected from the group consisting of a television video signal and non-broadcasted video signal.

However, Cheney '283 further discloses the claimed limitation of the video signal being selected from the group consisting of a television video signal and non-broadcasted video signal (e.g., Cheney '283 column 3, lines 22-40).

Claim 15:

The claim 15 encompasses the same scope of invention as that of claim 10 except additional claimed limitation of an analog to digital converter unit converting the output signal from the signal dispensing unit from an analog signal into a digital signal for the signal processing unit; and a digital to analog converter unit converting the output signal generated from the signal dispensing unit from a digital signal into an analog signal for the outputting unit.

However, Cheney '283 further discloses the claimed limitation of an analog to digital converter unit converting the output signal from the signal dispensing unit from an analog signal into a digital signal for the signal processing unit (e.g., Cheney '283 column 5-7); and a digital to analog converter unit converting the output signal generated from the signal dispensing unit from a digital signal into an analog signal for the outputting unit (e.g., Cheney '283 column 5-7).



***Remarks to Arguments dated 08/25/2004***

4. Applicant's arguments, filed 08/25/2004, have been fully considered but they are not deemed to be persuasive.

5. The Applicant argues in essence with respect to the claim 1 and similar claims that:

(A) "Cheney '283 fails to disclose an outputting unit outputting said analog personal computer signal generated from said signal dispensing unit, where said signal dispensing unit dispenses an output signal output from a personal computer in the form of an analog signal."

In response to the arguments in (A), as regards to the signal processing within the MUX 202 or the video decode system chip, Applicant should refer to column 7, lines 19-37 of Cheney '283, which describes the Fig. 5.

In Fig. 5 and column 7, lines 19-37 of Cheney '283, the video decoder/display and OSD logic 106 is modified to include the merging and blending capabilities. Cheney '283 teaches that, in this embodiment, a 2:1 MUX 202 as controlled by a processor generated "pixel select control" signal selects between the decompressed digital video, i.e., the decompressed video derived from the MPEG stream received through transport 103, or the uncompressed video, i.e., the analog (or digital) signal received through DMSD 105. Therefore, the signal dispensing unit such as the DMSD can output an analog computer signal.

Cheney in the '743 patent teaches applicant's claim invention more clearly. See Cheney '743 column 11-12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Cheney's teachings and to have incorporated the video decode system chip of Cheney '743 into the Cheney '283 because Cheney '283 suggests a video decode system chip incorporating an EGV port into an integrated digital video decode system such as a set-top box to process uncompressed analog video stream, to synchronize the output video/audio presentation to the stream and to mix/blend graphics into the output video stream, which may either comprise the uncompressed analog video stream or a merged picture-in-picture video stream including both the decompressed digital video and the uncompressed video wherein the blended stream is then output to the internal digital video encoder macro for encoding to television format and thus the analog channel is presented with the same graphical features, function and programming model capabilities as existing digital channels utilizing the integrated digital decode system (Cheney '283 column 8, lines 7-32).

Such modification would have been would have provided a means to use a clock tied to the input stream results in better output picture quality since dropping/repeating of frames to maintain synchronization is minimized (Cheney '743 column 10-11) and the configuration provides a means to deliver **analog sourced input channel** such as the analog computer signal to the internal DENC and provides a mixed mode video set-top box application to support viewing conventional analog channels without the added cost and complexity (Cheney '743 column 11).

6. The Applicant argues in essence with respect to the claim 2 and similar claims that:

(B) "Cheney fails to disclose a signal conversion unit (e.g., D/A converter) performing a conversion of the picture-in-picture signal output from the signal processing unit into an analog signal before the signal is output from the outputting unit."

In response to the arguments in (B), Applicant is urged to refer to Fig. 5 and the corresponding description of Cheney '283 in column 7, lines 19-39. Cheney '283 describes Fig. 5 as one embodiment, which modifies the video decoder/display and OSD logic 106 to incorporate the circuit elements of Fig. 5. Cheney '283 teaches that the MUX 202 selects between the digital signal received through transport 103 and the analog signal received through DMSD 105. Cheney '283 further teaches the 'pixel select control' has three modes of operation which are set by the host processor and the host processor can *set the pixel select control* to (1) *forward the decompressed video on to display*, (2) *forward the uncompressed video on to display* or (3) support picture-in-picture display, dynamically selecting both the decompressed and uncompressed video for display and *switching between decompressed and uncompressed video* for simultaneous display at a rate according to the desired locations of the secondary picture (see Fig. 3). Both Cheney '283 and Cheney '743 disclose an internal DENC for encoding the picture-in-picture signal output or to deliver a conventional analog signal to a display screen.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (703) 605-1213. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw



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